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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/727,678

12/04/2003

Richard M. Ehrlich

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11/30/2006

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EXAMINER

PEIKARI, BEHZAD

ART UNIT

PAPER NUMBER

2189

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/727,678	Applicant(s) EHRlich, RICHARD M.	
	Examiner B. James Peikari	Art Unit 2189	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 12-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The previous objections to the specification are withdrawn due to the amendment filed on September 5, 2006.
2. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Double Patenting***

3. The previous nonstatutory double patenting rejection is withdrawn due to the terminal disclaimer filed on September 5, 2006.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watts (U.S. Patent 6,336,161 B1).

Regarding claim 12, Watts teaches a method for storing critical data on a hard drive, comprising:

detecting a low power state event (Fig. 2a, step 42; column 4, lines 9-13);

retrieving a critical data from the DRAM (Fig. 5; column 5, lines 38-44; column 6, lines 6-13);

storing the critical data in a FLASH memory (Fig. 2a, step 44; column 2, line 33-36; column 4, lines 13-19) in order to provide non-volatile access to the data faster and with less power than a rotatable medium alone; and

powering down the DRAM (Fig. 2a, step 48; column 4, lines 24-25).

Watts fails to explicitly mention that the semiconductor memories (e.g., DRAM or FLASH) may be integrated in the hard drive device, as in the claimed invention (note that in Figure 3 of the invention, although DRAM and FLASH memory is tacked onto the outside of the controller 320, it is still within the box of device 305). Figure 1 of Watts shows the semiconductor memory in memory subsystem 13 and the hard drive 20. However, integrating various memories into a single board or chip or "device" was well known at the time of the invention. It would have been obvious to one having ordinary skill in the art at the time the invention was made to integrate the FLASH and DRAM of Watts into the hard drive 20, either as elements on the same board or in a prepackaged module, for example, since (1) the benefits of doing such were obvious – the closer proximity would have permitted faster access times (i.e., closer to the registers that need to have data preserved, note column 4, lines 13-20), plus real estate on the board

Art Unit: 2189

may have been reduced to permit a smaller size device, etc., (2) as explained in the rejection, the Watts system performs exactly the same functions as the present invention, for exactly the same reasons – the only difference is where the semiconductor memories have been placed, (3) the system of Watts was designed with a great degree of flexibility, note “the computer 10 shown above is a simplified block diagram, the invention as described could be used in many different computer programs” in column 3, lines 38-41, (4) this flexibility extended to the DRAM (“fast memory”) and the FLASH memory, note the explicit statement, “the fast memory and the flash EEPROM could be combined on other modules as well”, (5) Furthermore, to make integral was not given patentable weight, especially when there were no unobvious benefits to such an integration; note *In re Larson*, 144 USPQ 347 (CCPA 1965), and (6) The decision in *In re Larson* was later upheld for the integration of electrical circuitry; note *In re Tomoyuki Kohno*, 157 USPQ 275 (CCPA 1968).

Regarding claim 13, Watts teaches a method, wherein storing the critical data further includes:

storing the critical data in FLASH memory (Fig. 2a, step 44; column 2, line 33-36; column 4, lines 13-19); and

entering write data into a log, the write data indicating that critical data was read from the DRAM and written to the FLASH memory (Fig. 5; column 5, lines 38-44; column 6, lines 6-13).

Regarding claims 14 and 15, Watts teaches a method, further including:  
transitioning the hard drive to a low power state or power off state (Fig. 2a, step 42; column 4, lines 9-13; column 4, lines 24-25).

Regarding claim 16, Watts teaches a method, further including:  
identifying the critical data, the critical data stored on DRAM in the hard drive (Fig. 5; column 5, lines 38-44; column 6, lines 6-13).

### ***Response to Arguments***

6. Applicant's arguments filed September 5, 2006 have been fully considered.
- (A) The arguments regarding claim 12 are moot in view of the new rejections.
- (B) With regard to the dependent claims, applicant's remarks indicate that they should be allowable because the independent claims are allowable. Since applicant has not rebutted any of the rejections directed to the particular features of these claims, these claims are deemed to stand or fall with the independent claims.

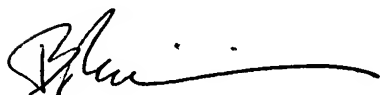
### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Peikari whose telephone number is (571) 272-4185. The examiner is generally available between 7:00 am and 7:30 pm, EST, Monday through Wednesday, and between 5:30 am and 4:00 pm on Thursday.

Art Unit: 2189

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon, can be reached at (571) 272-4204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center at 866-217-9197 (toll-free).



B. James Peikari  
Primary Examiner  
Art Unit 2189  
11/25/06